



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/612,828      | 07/02/2003  | Mika Sarkela         | 3003-00040          | 3875             |

26753 7590 11/17/2004

ANDRUS, SCEALES, STARKE & SAWALL, LLP  
100 EAST WISCONSIN AVENUE, SUITE 1100  
MILWAUKEE, WI 53202

|          |
|----------|
| EXAMINER |
|----------|

NATNITHITHADHA, NAVIN

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

3736

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |   |                                       |  |
|------------------------------|---|---------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/612,828    | <b>Applicant(s)</b><br>SARKELA ET AL. |  |
|                              | <b>Examiner</b><br>Navin Natnithithadha | <b>Art Unit</b><br>3736               |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the drawings are informal. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

### ***Claim Objections***

2. Claim 6 is objected to because of the following informalities:

The claim states "FEMG" and should be further defined as frontal electromyography. Appropriate correction is required.

3. Claims 12 and 19 are objected to because of the following informalities:

In line 1, "and" appears to be a typographical error and should be amended to - - an - -. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. Claims 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim is indefinite because of the phrase "as far as possible". It is unclear as to the extent of separation between the first electrode and second electrode and the extent of separation between the third electrode and fourth electrode.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-10, and 18-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Imram, US 5,479,934 A.

In regards to claims 1 and 18, Imram teaches a method of positioning electrodes, comprising: positioning seven electrodes as claimed on the frontal lobe as shown in the figures 3 and 4. Imram teaches these positions are in accordance with the international EEG 10-20 system (see col. 6, lines 42-47).

As to claim 2, Imram teaches separation of the electrodes in accordance with the international 10-20 system (see col. 6, lines 42-47).

As to claims 3, 9, 10, and 21-23, Imram teaches an electrode positioned in the area of skin (center of the forehead) having bone (skull) immediately under the skin (see fig. 3).

As to claims 4 and 24, Imram teaches the electrodes are positioned on the skin or scalp by pulling aside hair (see col. 11, lines 28, 29 and 39).

As to claim 5, Imram teaches measuring electrodes and a ground electrode (see col. 3, lines 33-43).

As to claim 6, Imram teaches electrode positioning above the eyebrows, which would be capable of detecting frontal electromyographic signals at those locations.

As to claim 7, Imram teaches measuring EEG (see col. 3, lines 1-5).

As to claim 8, Imram teaches measuring EEG from both the left and right hemispheres (see fig. 3).

As to claims 19 and 20, Imram teaches the electrode positions at the temple, which is at eye level between the eye and the ear.

6. Claims 11-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Brown, US 6,032,065 A.

In regards to claim 11, Brown teaches a method of positioning electrodes (see figs. 1 and 2, and col. 3, lines 30-48), comprising:

positioning a first electrode 28 above the eyebrows near frontalis and orbicularis muscles of the patient;

positioning a second electrode 30 to the temple of the patient at the same side of the head as the first electrode; and

positioning a third electrode 28 above the eyebrows near frontalis and orbicularis muscles of the patient at the opposite hemisphere when compared to the first electrode;

positioning a fourth electrode 30 to the temple of the patient's head at the same side of the head as the third electrode; and

positioning a fifth electrode 26 on the patient's skin.

As to claims 12 and 13, Brown teaches the temple is the area at eye level anterior of the ear and between the eye and the ear (see fig. 2).

As to claims 14-16, Brown teaches the fifth electrode 26 is positioned on the head area of the patient's skin having bone (skull) immediately under the skin and positioned in the middle area between the first electrode 28 and the third electrode 28 (see fig. 2).

As to claim 17, Brown teaches the EEG is measured from both the left and right hemispheres (see fig. 2).

### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Navin Natnithithadha whose telephone number is (703) 305-2445. The examiner can normally be reached on Monday-Friday, 8:00-4:00.

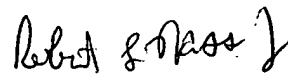
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on (703) 308-3130. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3736

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Navin Natnithithadha  
Patent Examiner  
GAU 3736  
November 12, 2004



ROBERT L. HINES  
PRIMARY EXAMINER